

# INDEX TO THE JOURNAL

THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS

JULY-DECEMBER, 1910

If it is desired to remove the index for the purpose of binding with The Journal for July to December, raise the staples upright, when the section will slip off easily. Then flatten the staples again.



## INDEX TO JOURNAL JULY-DECEMBER, 1910

NOTE: Items appearing in The Journal as Society Affairs, have the month and page number given. Where the list of discussors of a paper is given, the list appears under the straight title of the paper. Papers published in The Journal previous to July, discussion of which was published during July to December, are indicated by the month followed by "1910." All papers, reports, etc., of the Gas Power Section appear under the heading Gas Power Section. Items regarding Student Branches are so indexed. Miscellaneous items are indexed under Miscellaneous.

<i>American Locomotive Terminals</i> , WM. FORSYTH.....	1231
<i>Automatic Control of Condensing Water</i> , B. VIOLA.....	1579
<i>Ball-Bearing Lineshaft Hangers</i> , HENRY HESS .....	May 1910
Discussion	
F. B. GILBRETH, 1160 (Aug.); C. W. BAKER, 1160; F. W. DEAN, 1161; J. S. BANCROFT, 1161; F. N. VAN DERHOEF, 1161; HARRINGTON EMERSON, 1162; Closure, 1163.	
<i>Battleship North Dakota, The United States</i> , C. B. EDWARDS.....	1595
<i>Belt Driving, A New Theory of</i> , SELBY HAAR.....	1965
<i>Boiler Efficiency, Combustion and</i> , EDW. A. UEHLING.....	2023
<i>BOLTON, R. P. Operating Conditions of Passenger Elevators</i> .....	1983
<i>Books, Current</i> .....	1279, 1236 (Aug.), 1683, 1953, 2179
<i>By-Laws, Amendment to</i> .....	Oct., 8
<i>CLARK, F. H. Engine House Practice</i> .....	1219
<i>COLEMAN, E. P. First Large Gas-Engine Installation in American Steel Works</i> .....	1835
<i>Combustion and Boiler Efficiency</i> , EDW. A. UEHLING.....	2023
<i>Coming Meetings</i> .....	1299, 1250 (Aug.), 1378, 1681, 1850. 2176
<i>Comparison of Lathe Headstock Characteristics</i> , A, WALTER RAUTEN- STRAUCH .....	June 1910
Discussion	
C. G. BARTH, 1655; Closure, 1657.	
<i>Condensing Water, Automatic Control of</i> , B. VIOLA.....	1579
<i>Condensation, Transmission of Heat in Surface</i> , GEORGE A. ORROK.....	1771
COUNCIL MEETINGS	
May .....	July, 61
October .....	Nov., 12
December .....	Dec., 12
<i>Critical Speed Calculation</i> , S. H. WEAVER .....	June 1910
Discussion	
HENRY HESS, 1359; S. A. MOSS, 1360; M. NUSIM, 1360; Closure, 1362	
<i>Economics of Railway Elecerification</i> , W. B. POTTER.....	1183
<i>EDWARDS, C. B. The United States Battleship North Dakota</i> .....	1595

*Elastic Limit of Manganese and Other Bronzes, The*, J. A. CAPP. March 1910  
Discussion

S. A. MOSS, 1169 (Aug.); F. W. DEAN, 1170; Closure, 1170.

Electric Driving in Machine Shops, Symposium on,

See Symposium on Electric Driving

Elevators, Operating Conditions of Passenger, R. P. BOLTON..... 1983

Employment Bulletin ..... 1283, 1241, (Aug.), 1369, 1674, 1941, 2164

*Engineer's Duty as a Citizen, The*, GEO. W. MELVILLE ..... (Aug.) 1127

#### ENGINES

*Engine-House Practice*, F. H. CLARK..... 1219

*Handling Engines*, H. H. VAUGHAN..... 1241

*A Regenerator Cycle for Gas Engines Using Sub-Adiabatic Expansion*,

A. J. FRITH..... 1247

England, The Joint Meeting in, CALVIN W. RICE..... 1695

*Experimental Analysis of a Friction Clutch Coupling*, AN, WM. T. MA-  
GRUDER..... January 1910

#### Discussion

H. J. SMITH, 1659; G. N. VAN DERHOEF, 1663; H. S. SMITH, 1663;

E. P. HAINES, 1663; OBERLIN SMITH, 1663; Closure, 1664.

*Field for Grinding, The*, C. H. NORTON..... 2113

Finance Committee, Annual Report..... Dec., 20

*First Large Gas-Engine Installation in American Steel Works*, E. P.

COLEMAN..... 1835

FORSYTH, WM. *American Locomotive Terminals*..... 1231

*Freight Train Resistance*, EDW. C. SCHMIDT ..... May 1910

#### Discussion

T. S. BAILEY, 1295; WM. G. RAYMOND, 1296; S. A. MOSS, 1299;

F. W. DEAN, 1299; H. G. STOTT, 1300; G. N. VAN DERHOEF,

1300; F. J. COLE, 1301; W. F. M. GROSS, 1303; J. B. BLOOD, 1304;

LAWFORD H. FRY, 1307; ROBERT MOORE, 1310; CHAS. W.

BAKER, 1310; H. W. HIBBARD, 1311; J. P. CLAYTON, 1312;

F. W. MARQUIS, 1312; Closure, 1312.

FRITH, A. J. *A Regenerator Cycle for Gas Engines Using Sub-Adiabatic*

*Expansion*..... 1247

GANTT, H. L. *The Mechanical Engineer and the Textile Industry*, (Aug.) 1127

*Gas Engines for Driving Alternating-Current Generators*, H. G. REIST, June 1910

#### Discussion

P. M. LINCOLN, 1291; Closure, 1293.

Gas-Engine Installation in American Steel Works, First Large, E. P.

COLEMAN..... 1835

Gas Engines Using Sub-Adiabatic Expansion, A Regenerator Cycle for,

A. J. FRITH..... 1247

#### GAS POWER SECTION

Preliminary Report of Literature Committee..... 1267

Gas Producer, Notes on a Heavy-Duty, NISBET LATTA..... 2079

Gearing, Interchangeable Involute, WILFRED LEWIS..... 1631

*Graphical Method for Calculating Stresses in a Connecting Rod*, A, WINS-

LOW H. HERSHEL..... 1609

## GRINDING

<i>The Field for Grinding</i> , C. H. NORTON.....	2113
<i>Precision Grinding</i> , W. A. VIAL.....	2127
<i>Modern Grinding Methods</i> , B. M. W. HANSON.....	2139
HAAR, SELBY. <i>A New Theory of Belt Driving</i> .....	1997
HADAWAY, J. B., M. B. KAVEN and. <i>Modern Shoe Manufacture</i> .....	1961
<i>Handling Engines</i> , H. H. VAUGHAN.....	1241
<i>Handling Locomotives at Terminals</i> , F. M. WHYTE.....	1203
HANSON, B. M. W. <i>Modern Grinding Methods</i> .....	2139
HARTER, ISAAC, JR. <i>Notes on the Value of Napier's Coefficient with Superheated Steam</i> .....	2017
Heat in Surface Condensation, Transmission of, GEORGE A. ORROK.....	1771
HERSCHEL, WINSLOW H. <i>A Graphical Method for Calculating Stresses in a Connecting Rod</i> .....	1609
House Committee, Annual Report.....	Dec., 26
<i>Improved Absorption Dynamometer</i> , An, C. M. GARLAND.....	March 1910

## Discussion

C. M. ALLEN, 1166 (Aug.); Closure, 1167.

<i>Interchangeable Involute Gearing</i> , WILFRED LEWIS.....	1631
John Fritz Medal Award.....	Nov., 7
<i>Joint Meeting in England, The</i> , CALVIN W. RICE.....	1695
KAVEN, M. B. and HADAWAY, J. B. <i>Modern Shoe Manufacture</i> .....	1961
Kiln, The Rotary, ELLIS SOPER.....	1563
LATTA, NISBET. <i>Notes on a Heavy-Duty Gas Producer</i> .....	2079
LEWIS, WILFRED. <i>Interchangeable Involute Gearing</i> .....	1631

## Discussion

P. V. VERNON, 1644; C. R. GABRIEL, 1645; LUTHER D. BURLINGAME, 1649; DANIEL ADAMSON, 1651; THOMAS HUMPAGE, 1652; R. M. NEILSON, 1654; J. R. WILLIAMS, 1654.

## LIBRARY

Accessions to.....	1280, 1237 (Aug.), 1365, 1671, 1934, 2159
Annual Report of Committee.....	Dec., 27

## LOCOMOTIVES

<i>Handling Locomotives at Terminals</i> , F. M. WHYTE.....	1203
<i>Engine House Practice</i> , F. H. CLARK.....	1219
<i>American Locomotive Terminals</i> , WM. FORSYTH.....	1231
<i>Handling Engines</i> , H. H. VAUGHAN.....	1241

Machine Shops, Symposium on Electric Driving in.

See Symposium on Electric Driving

<i>Mechanical Engineer and the Textile Industry, The</i> , H. L. GANTT.....	May 1910
Addition.....	(Aug.) 1127

<i>Meeting in England, The Joint</i> , CALVIN W. RICE.....	1695
Meetings Committee, Annual Report.....	Dec., 27

## MEETINGS OF THE SOCIETY

English Meeting.....	July, 3, Aug., 3, Sept., 3, 1695
Spring Meeting.....	July, 7
Annual Meeting.....	Nov. 4, Dec. 3
May: St. Louis.....	July 5
June: Boston.....	July 6

## MEETINGS OF THE SOCIETY—Continued

October: New York, Oct., 3; Nov. 5; Boston, Oct., 3; Nov. 7; San Francisco, Nov., 6; St. Louis, Nov., 7

November: New York, Nov., 3; Dec., 9; Boston, Nov., 3; Dec., 10; St. Louis, Nov., 4, Dec., 11

December: Boston, Dec. 9; St. Louis, Dec. 9

## MEETINGS OF OTHER SOCIETIES

American Boiler Manufacturers Association.....	1931
American Chemical Society .....	(Aug.) 1233
American Gas Institute.....	1930
American Institute of Chemical Engineers.....	1273
American Institute of Electrical Engineers, 1274, 1229, (Aug.) 1928, 2152	
American Institute of Mining Engineers, Sept 16, 1274, 1927, Oct. 7, 2151	
American Iron and Steel Institute.....	1930
American Society for Testing Materials.....	(Aug.) 1232
American Society of Civil Engineers, 1229 (Aug.), 1364, 1665, 1927, 2152	
American Society of Engineering Contractors.....	1667
American Society of Municipal Improvement.....	1929
American Society of Naval Architects.....	1273
American Railway Association.....	1275
American Street and Interurban Railway Association.....	1931
American Waterworks Association .....	1272
Association of Railway Electrical Engineers.....	1668
Brooklyn Engineers Club.....	1929
Canadian Electrical Association.....	(Aug.), 1233
Colorado Electric Light and Railway Association.....	1668
Engineers Club of St. Louis. ....	1929
International Congress of Refrigeration.....	2153
International Railway Master Blacksmiths' Association.....	1364
National Association of German-American Technologists.....	1667
National Association of Master Sheet Metal Workers .....	1363
National Association of Manufacturers.....	1272
National Electric Light Association.....	1272
National Machine Toolbuilders Association.....	1274, 2152
National Society for the Promotion of Industrial Education (Aug.).....	1231, 2154
New England Waterworks Association.....	1667
New York Electrical Society.....	2155
New York Railroad Club .....	1667
Ohio Electric Light Association.....	(Aug.) 1233
Roadmasters and Maintenance of Way Association.....	1668
Society for the Promotion of Engineering Education.....	(Aug.) 1231
Society of Automobile Engineers.....	1364
Society of Naval Architects and Marine Engineers.....	2155
Western Railway Club.....	1275
MELVILLE, GEO. W. <i>The Engineer's Duty as a Citizen</i> .....	1127
<b>MEMBERSHIP</b>	
Membership, Changes in .....	1287, 1243 (Aug.), 1371, 1676, 1944 2167
Membership Committee, Annual Report.....	Dec., 31

Methods for Calculating Stresses in a Connecting Rod, A Graphical, WINSLOW H. HERSHEL.....	1609
---	------

## MISCELLANEOUS

American Museum of Safety.....	2152
Conservation Congress.....	1233 (Aug.), Oct., 3
Courses in Architecture in Engineering Societies Building.....	1928
Dedication of Forests Products Laboratory.....	(Aug.) 1230
Director of New Bureau of Mines.....	Oct., 7
Illuminating Engineering Courses at Johns Hopkins University...	1275
International American Scientific Congress.....	1274
International Congress of Mining, Metallurgy and Practical Geology	2153
International Hunting Congress.....	(Aug.), 1230
International Railway Congress.....	1363
National Irrigation Congress.....	1928
Opening of the Fritz Engineering and Coxe Mining Laboratories at Lehigh University.....	(Aug.) 1230
Tribute to Dr. Raymond.....	Nov., 9
<i>Modern Grinding Methods</i> , B. M. W. HANSON.....	2139
<i>Modern Shoe Manufacture</i> , M. B. KAVEN and J. B. HADAWAY.....	1997
NAPTALY, SAM. L. <i>Test of a 10,000-kw. Steam Turbine</i> .....	2089

## NECROLOGY

Mark Bary.....	Aug., 11
Clay Belsley.....	Nov., 16
Jonas H. Bloomberg.....	July 25
James W. Bridge.....	July, 23
Charles B. Clark.....	Oct., 14
William E. Crane.....	Sept., 19
Barton Cruikshank.....	Nov., 15
John D. E. Duncan.....	Sept., 17
Ralph Waldo Emerson.....	Aug., 11
James B. Faulks, Jr.....	Sept., 18
Charles A. Ferry.....	Oct., 14
Joseph Garbett.....	Oct., 15
Frederick Bellows Hall.....	Dec., 17
Washington Jones.....	Dec., 18
Walter Craig Kerr.....	July, 21
John E. McKay.....	Oct., 12
William N. Parsons.....	July, 25
Francis J. Plummer.....	July, 23
Charles T. Porter.....	Oct., 9, Nov., 8
Iltyd I. Redwood.....	July, 24
Stillman W. Robinson.....	Dec., 18
William W. Snow.....	Sept., 18
Ernest P. Sparrow.....	July, 24
Albert Spies.....	Oct., 11
Frederick M. Wheeler.....	Nov., 15
Alfred Wilkinson.....	Nov., 17
<i>New Theory of Belt Driving</i> , A. SELBY HAAR.....	1965
NORTON, C. H. <i>The Field for Grinding</i> .....	2113

<i>Notes on a Heavy-Duty Gas Producer</i> , NISBET LATTA.....	2079
<i>Notes on the Value of Napier's Coefficient with Superheated Steam</i> , ISAAC HARTER, JR.....	1961
<i>Operating Experiences with a Blast-Furnace Gas-Power Plant</i> , H. J. FREYN .....	June 1910
Addition.....	1319
Discussion	
A. E. MACCOUN, 1322; JOSEPH MORGAN, 1333; H. G. STOTT, 1336; E. A. UEHLING, 1336; S. K. VARNES, 1337; H. G. H. TARR, 1343; EDWARD RATHBUN, 1343; JESSE M. SMITH, 1343; C. W. BAKER, 1344; E. P. COLEMAN, 1341; A. BEMENT, 1345; W. E. SNYDER, 1345; Closure, 1353.	
<i>Operating Conditions of Passenger Elevators</i> , R. P. BOLTON.....	1983
ORROK, GEORGE A. <i>Transmission of Heat in Surface Condensation</i> .....	1771
PARKER, G. R. <i>Discussion on Steam Engine Turbine Unit</i> .....	Aug. 1157
Personals .....	1276, 1234 (Aug.), 1365, 1669, 1934, 2156
POTTER, W. B. <i>Economics of Railway Electrification</i> .....	1183
<i>Precision Grinding</i> , W. A. VIAL.....	2127
Publication Committee, Annual Report .....	Dec., 32
RAILWAY ELECTRIFICATION	
<i>The Electrification of Railways</i> , GEORGE WESTINGHOUSE.....	1133
<i>Economics of Railway Electrification</i> , W. B. POTTER.....	1183
<i>Regenerator Cycle for Gas Engines Using Sub-Adiabatic Expansion</i> , A, A. J. FRITH.....	1247
Research Committee, Annual Report.....	Dec., 34
RICE, CALVIN W. <i>The Joint Meeting in England</i> .....	1695
<i>Rotary Kiln, The</i> , ELLIS SOPER.....	1563
ROUNDHOUSE PRACTICE	
<i>Electrification of Trunk Lines</i> , L. R. POMEROY.....	February 1910
<i>The Electrification of Railways</i> , GEORGE WESTINGHOUSE.....	1133
<i>Economics of Railway Electrification</i> , W. B. POTTER.....	1183
<i>Handling Locomotives at Terminals</i> , F. M. WHYTE.....	1203
<i>Engine House Practice</i> , F. H. CLARK.....	1219
<i>American Locomotive Terminals</i> , WM. FORSYTH.....	1231
<i>Handling Engines</i> , H. H. VAUGHAN.....	1241
SOPER, ELLIS. <i>The Rotary Kiln</i> .....	1563
<i>Shoe Manufacture, Modern</i> . M. B. KAVEN and J. B. HADAWAY.....	1961
<i>Steam, Notes on the Value of Napier's Coefficient with Superheated</i> , ISAAC HARTER, JR.....	2017
<i>Steam Turbine, Test of a 10,000-kw.</i> , SAM. H. NAPHTALY.....	2089
<i>Steel Works, First Large Gas-Engine Installation in American</i> , E. P. COLEMAN.....	1835
<i>Strength of Cast-Iron Punch and Riveter Frames, The</i> , A. L. JENKINS, May, 1910	
Discussion	
JAMES CHRISTIE, 1259; WALTER RAUTENSTRAUCH, 1262; FRANK I. ELLIS, 1269; HENRY HESS, 1270; OBERLIN SMITH, 1271; WIL- FRED LEWIS, 1272; JOHN S. MYERS, 1273; S. A. MOSS, 1277;	



GEORGE WESTINGHOUSE, 1278; E. J. LORING, 1279; Closure, 1280.

Stresses in a Connecting Rod, A Graphical Method for Calculating,  
WINSLOW H. HERSCHEL..... 1609

#### STUDENT BRANCHES

Brooklyn Polytechnic.....Dec., 15  
Columbia University.....July, 18  
Cornell University.....July, 18  
Massachusetts Institute of Technology.....July, 18; Nov., 11  
Pennsylvania State College.....July, 18; Nov., 10  
Purdue University.....July, 19; Nov., 10; Dec., 15  
Stanford University.....July, 19; Nov., 10  
Stevens Institute of Technology.....July, 19; Nov., 10  
University of Cincinnati.....July, 19; Dec., 15  
University of Illinois.....Nov., 11; Dec., 16  
University of Maine.....July, 19  
University of Missouri.....July, 20; Nov., 10  
University of Nebraska.....July, 20  
Wisconsin University.....July, 20; Nov., 11; Dec., 16  
Yale University.....Nov., 11

Superheated Steam, Notes on the Value of Napier's Coefficient with,  
ISAAC HARTER, JR..... 2017

Symposium on Electric Driving in Machine Shops, A. L. DeLEEuw,  
November, 1909; CHARLES ROBBINS, April 1910; JOHN RIDDELL,  
April 1910.

#### Discussion

M. L. HOLMAN, 1189 (Aug.); W. F. M. GOSS, 1189; E. R. FISK,  
1190; A. H. TIMMERMAN, 1191; P. A. MORSE, 1192; H. H.  
HUMPHREY, 1193; O. STEPHENSEN, 1193; Wm. H. BRYAN, 1194;  
H. WADE HIBBARD, 1194; CHARLES FAIR, 1195; HENRY HESS,  
1195; L. R. POMEROY, 1205; GANO DUNN, 1209; FRED. L.  
EBERHARDT, 1210; A. L. DeLEEuw, 1212; CARL G. BARTH,  
1215; JOHN RIDDELL, 1215; H. A. HORNOR, 1216; W. S. CHASE,  
1217; CLARENCE L. COLLENS, 1217.

#### TERMINALS

*American Locomotive Terminals*, WM. FORSYTH..... 1231  
*Handling Locomotives at Terminals*, F. M. WHYTE..... 1203

*Test of a 15,000-kw. Steam-Engine Turbine Unit*, H. G. STOTT and  
R. J. S. PIGOTT.....March 1910  
Addition.....Aug., 1129

#### Discussion

W. L. R. EMMET, 1137; MAX ROTTER, 1139; E. F. MILLER, 1143;  
EDW. L. CLARK, 1144; E. D. DREYFUS, 1146; CHAS. P. STEIN-  
METZ, 1148; J. W. LIEB, JR., 1153; D. S. JACOBUS, 1153; B.  
R. SHOVER, 1154; G. R. PARKER, 1155; O. JUNGREN, 1155;  
F. SAMUELSON, 1156; Closure, 1156, 1665; G. R. PARKER, 1157.

*Test of a 9000-kw. Turbo-Generator Set*, F. H. VARNEY..... 2105

*Test of a 10,000-kw. Steam Turbine*, SAM. L. NAPHTALY..... 2089

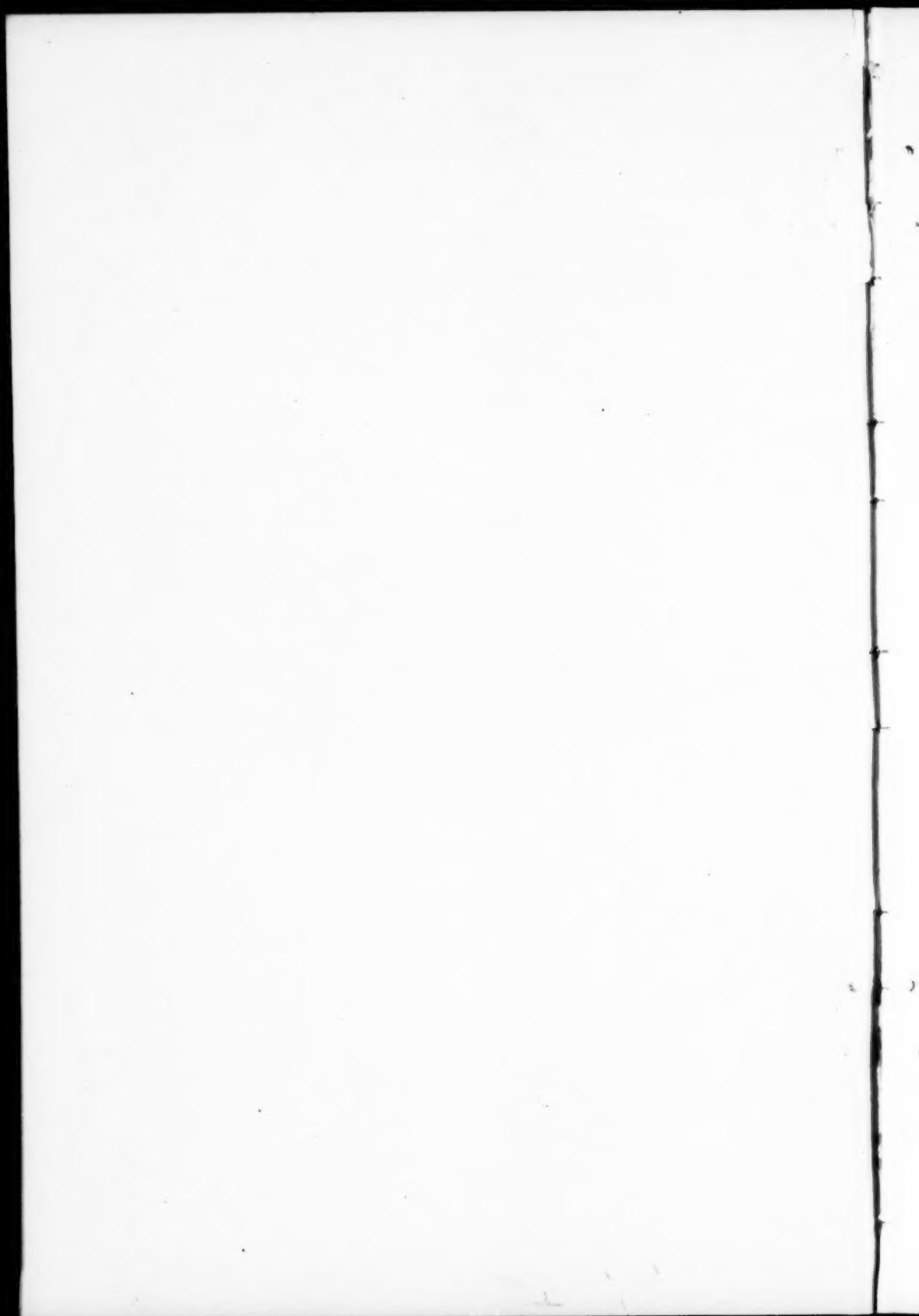
<i>Testing of Water Wheels after Installation, The</i> , C. M. ALLEN.....	April 1910
Discussion	
R. A. HALE, 1172 (Aug.); J. C. PARKER, 1176; DWIGHT PORTER, 1178; G. E. RUSSELL, 1179; H. K. BARROWS, 1180; H. D. JACKSON, 1181; H. C. DAGGETT, 1184.	
<i>Tooth Gearing</i> (in abstract), J. D. STEVEN.....	1643
For discussion see Interchangeable Involute Gearing	
<i>Transmission of Heat in Surface Condensation</i> , GEORGE A. ORROK....	1771
<i>Two Proposed Units of Power</i> , WM. T. MAGRUDER.....	June, 1910
Discussion	
WM. KENT, 1313; E. D. DREYFUS, 1316; H. G. STOTT, 1316; I. LUNGAARD, 1317; Closure, 1317.	
Turbines	
<i>Test of a 10,000-kw. Steam Turbine</i> , SAM L. NAPHTALY.....	2089
<i>Test of a 9000-kw. Turbo-Generator Set</i> , F. H. VARNEY.....	2105
<i>Turbo-Generator Set, Test of a 9000-kw.</i> , F. H. VARNEY.....	2035
UEHLING, EDW. A. <i>Combustion and Boiler Efficiency</i> .....	2023
<i>United States Battleship North Dakota, The</i> , C. B. EDWARDS.....	1595
VARNEY, F. H. <i>Test of a 9000-kw. Turbo-Generator Set</i> .....	2105
VAUGHAN, H. H. <i>Handling Engines</i> .....	1241
VIAL, W. A. <i>Precision Grinding</i> .....	2127
VIOLA, B. <i>Automatic Control of Condensing Water</i> .....	1579
Water, <i>Automatic Control of Condensing</i> , B. VIOLA.....	1579
WESTINGHOUSE, GEORGE. <i>The Electrification of Railways</i> .....	1133
WHYTE, F. M. <i>Handling Locomotives at Terminals</i> .....	1203

# INDEX TO THE JOURNAL

THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS

January-June, 1910

If it is desired to remove the index for the purpose of binding with The Journal for January to June, raise the staples upright, when the section will slip off easily. Then flatten the staples again.



# INDEX TO JOURNAL, JANUARY-JUNE, 1910

NOTE: Items appearing in The Journal as Society Affairs, have the month and page number given. Where the list of discussors of a paper is given, the list appears under the straight title of the paper. Papers published in The Journal for 1909, discussion of which was published in 1910 are indicated by the month followed by "1909." All papers, reports, etc., of the Gas Power Section appear under the heading Gas Power Section. All items concerning colleges and not referring to Student Branches are indexed under Colleges. Items regarding Student Branches are so indexed. Miscellaneous items are indexed under Miscellaneous.

ALEXANDER, MAGNUS W. <i>The Training of Men</i> .....	33, 1085
ALLEN, C. M. <i>The Testing of Water Wheels after Installation</i> .....	481
<i>Venturi Tests for Boiler Feed</i> .....	221
<i>Ball-Bearing Lineshaft Hangers</i> , HENRY HESS.....	773
BENJAMIN, C. H. <i>Discussion on Recent Developments in Wheel Testing</i> ....	1099
<i>Best Form of Longitudinal Joint for Boilers</i> , The, F. W. DEAN....	October 1909
Discussion	
R. P. BOLTON, 423; E. D. MEIER, 424; A. M. GREENE, Jr., 424;	
W. A. JONES, 425; S. F. JETER, 427; Closure, 427.	
BIBBINS, J. R. <i>Bituminous Gas Producers</i> .....	575
<i>Cooling Towers</i> .....	229
<i>Bituminous Gas Producers</i> , J. R. BIBBINS.....	December 1909
Discussion	
G. M. S. TAIT, 575; R. H. FERNALD, 576; W. B. CHAPMAN, 580; H. M.	
LATHAM, 581; H. H. SUPLEE, 581; E. N. TRUMP, 582; H. F.	
SMITH, 582; G. D. CONLEE, 583; Closure, 583.	
Boiler Feed, Venturi Tests for, C. M. ALLEN.....	221
Boiler Fuel, Tan Bark as a, D. M. MYERS.....	181, 186
BOILERS	
<i>An Experience with Leaky Vertical Fire-Tube Boilers</i> , F. W. DEAN...	267
<i>The Best Form of Longitudinal Joint for Boilers</i> , F. W. DEAN.....	423
Books, Current.....	124, 453, 652, 888
<i>Bucyrus Locomotive Pile Driver</i> , The, WALTER FERRIS.....	November 1909
Discussion	
A. F. ROBINSON, 437; L. J. HOTCHKISS, 437; Closure, 439.	
Building Materials, Effects of Fire on, FRANK B. GILBRETH.....	745
CAINE, W. P. <i>Governing Rolling Mill Engines</i> .....	529
CAPP, J. A. <i>The Elastic Limit of Manganese and Other Bronzes</i> .....	373
CARPENTER, R. C. <i>High-Pressure Fire-Service Pumps of Manhattan</i>	
<i>Borough, City of New York</i> .....	51, 391
Cast Iron, The Strength of Punch and Riveter Frames made of, A. L.	
JENKINS.....	723

<i>Cast-Iron Fittings for Superheated Steam</i> , IRA N. HOLLIS, EDW. F. MILLER, ARTHUR S. MANN.....	December 1909
Discussion	
B. R. T. COLLINS, 842; G. A. ORROK, 842; W. K. MITCHELL, 845; JOHN PRIMROSE, 852; H. S. BROWN, 855; E. H. FOSTER, 855; L. D. NUTTING, 856; ANDREW LUMSDEN, 857; J. C. PARKER, 858; A. A. CARY, 859; W. E. SNYDER, 860; J. S. SCHUMAKER, 864; D. S. JACOBUS, 864; H. F. RUGAN, 865; Closure, 871.	
Cast-Iron Test Bars, A Report on, A. F. NAGLE.....	429
Chord, The Hydrostatic, RAYMOND D. JOHNSON .....	783
COLLEGES	
Columbia University Course in Works Management.....	448
McGill University, Aerial Navigation at.....	1108
Massachusetts Institute of Technology, Advanced Study of Electrical Engineering at.....	1109
Stevens Institute Alumni Dinner .....	449
University of Kansas.....	647
University of Wisconsin Forest Products Laboratory .....	1109
Coming Meetings.....	136, 286, 470, 668, 904, 1117
<i>Comparison of Lathe Headstock Characteristics</i> , A, WALTER RAUTEN- STRAUCH.....	1011
Constitution, Amendments to.....	Apr., 15
<i>Cooling Towers</i> , J. R. BIBBINS.....	Mid-November 1909
Discussion	
G. J. FORAN, 229; W. D. ENNIS, 234; H. E. LONGWELL, 235; B. H. COFFEY, 238; C. G. DELAVAL, 241; E. D. DREYFUS, 247; T. C. McBRIDE, 249; Closure, 250.	
CONRADSON, P. H. <i>Discussion on Lubrication</i> .....	803
COUNCIL MEETINGS	
December.....	Jan. 24, 27
January.....	Feb., 5
February.....	Mar., 11
March.....	Apr., 12
April.....	May, 10
<i>Critical Speed Calculation</i> , S. H. WEAVER.....	1059
DEAN, F. W. <i>An Experience with Leaky Vertical Fire-Tube Boilers</i> .....	267
<i>The Best Form of Longitudinal Joint for Boilers</i> .....	423
Dedication of Memorial Tablet to Robert Henry Thurston.....	295
<i>Design of Curved Machine Members under Eccentric Load</i> , WALTER RAUTEN- STRAUCH .....	Mid-October 1909
Discussion	
GAETANO LANZA, 199; C. R. GABRIEL, 201; W. H. BURR, 202; G. R. HENDERSON, 203; A. L. CAMPBELL, 204; F. I. ELLIS, 205; E. J. LORING, 206; C. E. HOUGHTON, 212; H. GANSSLEN, 213; J. S. MYERS, 214; Closure, 218.	
<i>Dynamometer, An Improved Absorption</i> , C. M. GARLAND.....	385
Electric Driving, Mechanical Features of, in Machine Shops, JOHN RIDDELL .....	503
Electric Motor Applications, Economical Features of, CHARLES ROBBINS.	587

<i>Electrification of Trunk Lines, The</i> , L. R. POMEROY.....	145
<i>Economical Features of Electric Motor Applications</i> , CHARLES ROBBINS ...	587
<i>Efficiency Tests of Steam Nozzles</i> , F. H. SIBLEY and T. S. KEMBLE	
Mid-November 1909	
Discussion	
J. A. MOYER, 537; C. C. THOMAS, 539; S. L. KNEASS, 539; Closure,	
542.	
<i>Elastic Limit of Manganese and Other Bronzes, The</i> , J. A. CAPP.....	373
<i>Electric Gas Meter, An</i> , C. C. THOMAS.....	December 1909
Addition .....	27
Discussion	
L. S. MARKS, 521; W. D. ENNIS, 524; E. D. DREYFUS, 524;	
A. R. DODGE, 525; Closure, 525.	
Employment Bulletin.....	126, 284, 461, 659, 895, 1110
Engineering, The Profession of, JESSE M. SMITH.....	1
<i>Experience with Leaky Vertical Fire-Tube Boilers, An</i> , F. W. DEAN. October 1909	
Discussion	
R. P. BOLTON, 267, 273; Wm. KENT, 269, 273; J. C. PARKER, 269;	
O. C. WOOLSON, 269; A. A. CARY, 270; L. P. BRECKENRIDGE,	
272; A. M. GREENE, JR., 273; E. D. MEIER, 273; D. M. MYERS,	
275; A. BEMENT, 275; Closure, 277.	
<i>Experimental Analysis of a Friction Clutch Coupling</i> , Wm. T. MAGRUDER..	9
Factory System, The Training of Men a Necessary Part of a Modern,	
M. W. ALEXANDER.....	33, 1085
FERRIS, WALTER. <i>The Bucyrus Locomotive Pile Driver</i> .....	437
<i>Finishing Staybolts and Straight and Taper Bolts for Locomotives</i> , C. K.	
LASSITER .....	1037
<i>Fires: Effects on Building Materials and Permanent Elimination</i> , FRANK	
B. GILBRETH.....	745
Frames, Strength of Punch and Riveter, Made of Cast Iron, A. L.	
JENKINS.....	723
<i>Freight Train Resistance</i> , EDW. C. SCHMIDT.....	679
FREYN, HEINRICH J. <i>Operating Experiences with a Blast Furnace Gas Power</i>	
<i>Plant</i> .....	917
Friction Clutch-Coupling, Experimental Analysis of a, Wm. T. MAGRU-	
DER.....	9
GANTT, H. L. <i>The Mechanical Engineer and the Textile Industry</i> .....	765
GARLAND, C. M. <i>An Improved Absorption Dynamometer</i> .....	385
and KRATZ, A. P., <i>Testing Suction Gas Producers</i> .....	561
<i>Gas Engines for Driving Alternating-Current Generators</i> , H. G. REIST.....	1055
<i>Gas Meter, An Electric</i> , C. C. THOMAS.....	27, 521
<i>Gas Power Plant, Blast Furnace, Operating Experiences with</i> , HEINRICH	
J. FREYN.....	917
GAS POWER SECTION	
Chairman's Address. <i>The Work and Possibilities of the Gas Power Sec-</i>	
<i>tion</i> , F. R. LOW.....	549
Preliminary Report of Literature Committee.....	878
Report of Research Committee.....	554
Report of Standardization Committee.....	873

## GAS PRODUCERS

- Testing Suction Gas Producers*, C. M. GARLAND and A. P. KRATZ . . . . 561  
*Bituminous Gas Producers*, J. R. BIBBINS . . . . . 575  
 Generators, Gas Engines for Driving Alternating-Current, H. G. REIST . . 1055  
 GILBRETH, FRANK B. *Fires: Effects on Building Materials and Permanent Elimination* . . . . . 745  
*Governing Rolling Mill Engines*, W. P. CAINE . . . . . Mid-November 1909

## Discussion

- H. C. ORD, 529; JAMES TRIBE, 531; E. W. YEARSLEY, 533; Closure, 534.  
 HESS, HENRY. *Ball-Bearing Lineshaft Hangers* . . . . . 773  
*Lineshaft Efficiency, Mechanical and Economic* . . . . . 409  
*High-Pressure Fire-Service Pumps of Manhattan Borough, City of New York*, R. C. CARPENTER . . . . . September 1909

## Discussion

- G. F. SEVER, 51, 74; W. M. WHITE, 53; G. L. FOWLER, 54; J. H. NORRIS, 59; J. R. BIBBINS, 60; J. J. BROWN, 62; G. A. ORROK, 63; FREDERICK RAY, 64; H. Y. HADEN, 65; T. J. GANNON, 65, 74; H. B. MACHEN, 67; R. H. RICE, 69; C. A. HAGUE, 70; A. C. PAULSMEIER, 74; W. B. GREGORY, 75; C. B. REARICK, 76; H. E. LONGWELL, 77; W. M. FLEMING, 77; H. S. BAKER, 391, 403; E. E. WALL, 400, 403; H. C. HENLEY, 401, 403; EDW. FLAD, 402; H. W. HIBBARD, 403; W. H. REEVES, 404; E. L. OHLE, 405; Closure, 405.  
 HOLLIS, IRA N., MILLER, EDW. F., MANN, ARTHUR S. *Cast-Iron Fittings for Superheated Steam* . . . . . 841  
 HUMPHREYS, DR. ALEX. C. *Remarks at Dedication of Thurston Memorial* . . . . . 296  
*Hydrostatic Chord, The*, RAYMOND D. JOHNSON . . . . . 783  
*Improved Absorption Dynamometer, An*, GARLAND, C. M. . . . . 385  
 ISHERWOOD BENJ. F. *Dr. Thurston's Career as a Naval Engineer* . . . . 300  
*Jarring Machine, The Shockless*, WILFRED LEWIS . . . . . 788  
 JENKINS, A. LEWIS. *The Strength of Punch and Riveter Frames made of Cast Iron* . . . . . 723  
 JOHNSON, RAYMOND D. *The Hydrostatic Chord* . . . . . 783  
 KEMBLE, T. S., SIBLEY, F. H., and. *Efficiency Tests of Steam Nozzles* . . . 537  
 KENT, WILLIAM. *Dr. Thurston in Literature and in Research* . . . . . 307  
 KERR, WALTER C. *Dr. Thurston at Sibley College, Cornell University* . . . 313  
 KRATZ, A. P., GARLAND, C. M., and. *Testing Suction Gas Producers* . . . 561  
 LANZA, GAETANO, and SMITH, L. S. *Stresses in Reinforced Concrete Beams*. 83  
 LASSITER, C. K. *Finishing Staybolts and Straight and Taper Bolts for Locomotives* . . . . . 1037  
*Lathe Headstock Characteristics, A Comparison of*, WALTER RAUTEN-  
 STRAUCH . . . . . 1011  
 LEWIS, WILFRED. *The Shockless Jarring Machine* . . . . . 788  
 LIBRARY  
 Donations to . . . . . Jan., 37  
 Accessions to . . . . . 119, 281, 456, 654, 890  
 Report of Librarian . . . . . Mar., 12



*Lineshaft Efficiency, Mechanical and Economic*, HENRY HESS.... December 1909  
Discussion

T. F. SALTER, 409; C. A. GRAVES, 411; C. J. H. WOODBURY, 412;  
WALTER FERRIS, 413; F. J. MILLER, 413; A. C. JACKSON, 413;  
C. D. PARKER, 413; O. B. ZIMMERMAN, 414; W. F. PARISH, Jr.,  
414; G. N. VAN DERHOEF, 415; Closure, 416.

Lineshaft Hangers, Ball-Bearing, HENRY HESS..... 773

Literature Committee, Gas Power Section, Preliminary Report of..... 878

Locomotive Pile Driver, The Bucyrus, WALTER FERRIS..... 437

Locomotives, Finishing Staybolts and Straight and Taper Bolts for, C.

K. LASSITER..... 1037

Low, FRED R. Chairman's Address: *The Work and Possibilities of the Gas*

*Power Section*..... 549

Lubricants, Lubrication and, C. F. MABERY..... 163, 803

Lubrication and Lubricants, C. F. MABERY..... 163

Discussion

P. H. CONRADSON, 803; Wm. M. DAVIS, 819; HENRY SOUTHER, 821;

F. R. LOW, 823; D. S. JACOBUS, 825; A. HAGUE, 827; GEO. A.

ORROK, 827; P. E. WALTER, 828; MALCOM McNAUGHTON, 831;

T. C. THOMSEN, 834; Closure, 837.

MABERY, C. F. *Lubrication and Lubricants*..... 163, 803

Machine Members under Eccentric Load, The Design of Curved, WALTER

RAUTENSTRAUCH..... 199

Machine Shops, Mechanical Features of Electric Driving in, JOHN

RIDDELL..... 503

MAGRUDER, Wm. T. *Experimental Analysis of a Friction Clutch Coupling*. 9

*Two Proposed Units of Power*..... 1047

Manganese and other Bronzes, The Elastic Limit of, J. A. CAPP..... 373

MANN, ARTHUR S., HOLLIS, IRA N., MILLER, EDW. F. *Cast-Iron Fittings*

*for Superheated Steam*..... 842

*Mechanical Engineer and the Textile Industry, The*, H. L. GANTT..... 765

*Mechanical Features of Electric Driving in Machine Shops*, JOHN RIDDELL. 503

MEETINGS OF THE SOCIETY

Annual..... Jan., 9

Spring Meeting..... Feb., 4, Mar., 7, Apr., 7, May, 3, June, 3

English Meeting..... Jan., 5, Feb., 8, Mar., 8, Apr., 9, May, 6, June, 7

November: Boston, Jan., 6; St. Louis, Jan., 7

December: Boston, Jan., 6; St. Louis, Jan., 7

January: New York, Jan., 1, Feb., 4; St. Louis, Jan., 4; Boston, Jan., 4,

Feb., 12

February: New York, Feb., 3, 295; Boston, Feb., 4, Mar., 4

March: New York, Mar., 3, Apr., 4; Boston, Mar., 4, Apr., 5; St. Louis,

Apr., 6

April: New York, Apr., 3, May, 9; Boston, Apr., 4, June, 9; St. Louis,

May, 9

May: St. Louis, May, 8, June, 9

MEETINGS OF OTHER SOCIETIES..... 136, 286, 470, 668, 904, 1117

Aero Club of America..... 884

Air Brake Association..... 646

## MEETINGS OF OTHER SOCIETIES—Continued

- American Electrochemical Society ..... 646; May, 14  
 American Institute of Chemical Engineers ..... Jan., 39  
 American Institute of Electrical Engineers,  
     Jan., 38, Feb., 21, 447, 644, 883, 1107  
 American Institute of Mining Engineers ..... Feb., 21, 445, 643, 1107  
 American Railway Engineering and Maintenance of Way Association. 645  
 American Society of Civil Engineers ..... Feb., 21, 445, 643, 883, 1107  
 Boston Society of Architects ..... May, 14  
 Brooklyn Engineers Club ..... Jan., 42  
 Engineers Club of New York ..... Jan., 36, Feb., 18  
 Engineers Club of Philadelphia ..... 447  
 Engineers Club of St. Louis ..... Jan., 41  
 Engineers Society of Western Pennsylvania ..... 646, 884  
 Idaho Society of Engineers ..... 647  
 Institution of Mechanical Engineers ..... 645  
 International Association of Refrigeration ..... Feb., 22  
 International Congress of Inventors ..... 645  
 International Congress of Mining, Metallurgy, Applied Mechanics  
     and Practical Geology ..... 446, May, 13  
 National Association of Cotton Manufacturers ..... June, 10, 1108  
 National Civic Federation ..... 446  
 National Commercial Gas Association ..... Jan., 40  
 National Metal Trades Association ..... 884  
 National Society for Promotion of Industrial Education ..... Jan., 39  
 New England Waterworks Association ..... Feb., 22  
 New Haven Economic Club ..... 644  
 New York Electrical Society ..... 447  
 Society of Naval Architects ..... Jan., 41, 446  
 Western Society of Engineers ..... Jan., 39, Feb., 22, 448  
 Worcester Economics Club ..... Feb., 19  
 MELVILLE, GEO. W. *Dr. Thurston at the Naval Academy at Annapolis* ..... 301  
 Membership, Changes in ..... 129, 464, 662, 898, 1112  
 Men, Training of, a Necessary Part of the Modern Factory System,  
     M. W. ALEXANDER ..... 33, 1085  
 MILLER, EDW. F., HOLLIS, IRA N., MANN, ARTHUR S. *Cast-Iron Fittings  
     for Superheated Steam* ..... 842  
 MISCELLANEOUS  
     American Exposition at Berlin ..... Jan., 38  
     Detroit Industrial Exposition ..... 647  
     Engineers Club Banquet ..... Jan., 36  
     Engineers License Commission ..... June, 9  
     Kirchhoff, Charles, Luncheon to ..... Feb., 18  
     Museum of Mechanic Arts ..... Apr., 16  
     Woodbury, Dr. C. J. H., Presentation of Medal to ..... June, 10  
     Worcester Economics Club ..... Feb., 19  
 MYERS, D. M. *Tan Bark as a Boiler Fuel* ..... 181, 186  
 NAGLE, A. F. *A Report on Cast-Iron Test Bars* ..... 429  
     *Pump Valves and Valve Areas* ..... 253

NECROLOGY

Stephen W. Baldwin.....	Feb., 25
Chas. W. Batchelor.....	Mar., 20
Jas. H. Blessing.....	Apr., 19
Wm. W. Churchill.....	May, 15
Chas. B. Dudley.....	Feb., 27
Alfred M. Goodale.....	Apr., 19
Harry S. Haskins.....	May, 16
Walter C. Kerr.....	June, 11
Wm. Metcalf.....	Feb., 28
Percy A. Sanguinetti.....	Mar., 21
Horace See.....	Jan., 43, Feb., 24
Gardiner C. Sims.....	May, 15
J. Henry Sirich, Jr.....	Apr., 20
Charles Swinscoe.....	Jan., 44
Charles H. Willcox.....	Jan., 43

OFFICERS, NEW

George Westinghouse.....	Jan., 28
Chas. Whiting Baker.....	Jan., 31
W. F. M. Goss.....	Jan., 31
E. D. Meier.....	Jan., 32
J. Sellers Bancroft.....	Jan., 33
Jas. Hartness.....	Jan., 34
H. G. Reist.....	Jan., 34

*Operating Experiences with a Blast Furnace Gas Power Plant*, HEINRICH J.

FREYN.....	917
Personals.....	Jan., 45, Feb., 30; 450, 649, 885
PIGOTT, R. J. S., STOTT, H. G., and. <i>Test of a 15,000-kw. Steam-Engine-Turbine Unit</i> .....	315
<i>Pilot Tube as a Steam Meter</i> , The, GEO. F. GEBHARDT.....	Mid-November 1909
Discussion	
W. B. GREGORY, 441; WALTER FERRIS, 442; A. R. DODGE, 443; Closure, 443.	
POMEROY, L. R. <i>The Electrification of Trunk Lines</i> .....	145
Power, Two Proposed Units of, WM. T. MAGRUDER.....	1047
<i>Profession of Engineering</i> , The, JESSE M. SMITH.....	1
<i>Pump Valves and Valve Areas</i> , A. F. NAGLE.....	Mid-October 1909
Discussion	
C. A. HAGUE, 253; I. H. REYNOLDS, 255; F. W. SALMON, 257; WM. KENT, 258; R. C. CARPENTER, 259; E. H. FOSTER, 259; Closure, 259.	
Pumps, High-Pressure Fire-Service of Manhattan Borough, R. C. CARPENTER.....	51, 391
RAUTENSTRAUCH, WALTER. <i>A Comparison of Lathe Headstock Characteristics</i> .....	1011
<i>The Design of Curved Machine Members under Eccentric Load</i> .....	199
REIST, H. G. <i>Gas Engines for Driving Alternating-Current Generators</i> ....	1055

<i>Report on Cast-Iron Test Bars, A, A. F. NAGLE</i> .....	Mid-October 1909
Discussion	
W. B. GREGORY, 429; G. M. PEEK, 432; A. A. CARY, 434; T. M. PHETTEPLACE, 435; Closure, 435.	
<i>Report of Standardization Committee, Gas Power Section</i> .....	December 1909
Discussion	
D. S. JACOBUS, 873; R. H. FERNALD, 873; A. A. CARY, 874; E. D. DREYFUS, 875; L. B. LENT, 876; C. E. LUCKE, 877.	
REPORTS	
Research Committee, Gas Power Section .....	554
Standardization Committee, Gas Power Section .....	873
Literature Committee, Gas Power Section .....	878
Research Committee, Report of Gas Power .....	554
RIDDELL, JOHN. <i>Mechanical Features of Electric Driving in Machine Shops</i> .....	503
ROBBINS, CHARLES. <i>Economical Features of Electric Motor Applications</i> ..	587
Rolling Mill Machines, Governing, W. P. CAINE .....	529
SCHMIDT, EDW. C. <i>Freight Train Resistance</i> .....	679
<i>Shockless Jarring Machine, The</i> , WILFRED LEWIS .....	788
SIBLEY, F. H., and KEMBLE, T. S. <i>Efficiency Tests of Steam Nozzles</i> .....	537
SMITH, JESSE M. Presidential Address: <i>The Profession of Engineering</i> ....	1
SMITH, LAWRENCE S., LANZA, GAETANO, and. <i>Stresses in Reinforced-Concrete Beams</i> .....	83
<i>Speed Calculation, Critical</i> , S. H. WEAVER .....	1059
Standardization Committee, Gas Power Section, Report of .....	873
Staybolts and Straight and Taper Bolts for Locomotives, Finishing, C. K. LASSITER .....	1037
Steam-Engine-Turbine Unit, Test of a 15,000-kw., H. G. STOTT and R. J. S. PIGOTT .....	315
Steam Meter, The Pitot Tube as a, GEO. F. GEBHARDT .....	441
Steam Nozzles, Efficiency Tests of, F. H. SIBLEY and T. S. KEMBLE ..	537
STEVENS, E. A. <i>Dr. Thurston at Stevens Institute of Technology</i> .....	305
STOTT, H. G., and PIGOTT, R. J. S. <i>Test of a 15,000-kw. Steam-Engine-Turbine Unit</i> .....	315
<i>Strength of Punch and Riveter Frames Made of Cast-Iron, The</i> , A. L. JENKINS .....	723
<i>Stresses in Reinforced-Concrete Beams</i> , GAETANO LANZA, LAWRENCE S. SMITH .....	Mid-October 1909
Discussion	
C. T. MAIN, 83; S. E. THOMPSON, 84; F. S. HINDS, 86; C. M. SPOFFORD, 87; H. F. BRYANT, 88, 93; J. R. WORCESTER, 88; G. F. SWAIN, 91; R. R. NEWMAN, 93; H. E. SAWTELL, 93; E. P. GOODRICH, 97; WALTER RAUTENSTRAUCH, 100; B. H. DAVIS, 101; C. B. GRADY, 103; F. B. GILBRETH, 104; W. H. BURR, 105; J. C. OSTROP, 107; E. L. HEIDENREICH, 110; C. E. HOUGHTON, 111; W. W. CHRISTIE, 112; Closure, 113.	
STUDENT BRANCHES	
Brooklyn Polytechnic Institute .....	Jan., 36, Mar. 6, Apr., 17
Columbia University .....	Jan., 36

## STUDENT BRANCHES—Continued

- Massachusetts Institute of Technology.....Jan., 36, Apr., 18  
 Pennsylvania State College.....Mar., 6, May, 12, June, 11  
 Purdue University.....Apr., 17, May, 13  
 Stanford University.....Feb., 20, June, 10  
 Stevens Institute.....Apr., 17  
 University of Cincinnati.....Jan., 36, May, 13  
 University of Kansas.....Mar., 5  
 University of Maine.....June, 11  
 University of Missouri.....Jan., 36  
 University of Wisconsin.....Feb., 20, May, 13  
 Superheated Steam, Cast-Iron Fittings for, IRA N. HOLLIS, EDW. F. MILLER, ARTHUR S. MANN.....841  
 SWEET, JOHN E. *Dr. Thurston's Connection with the Society*.....298  
 Tan Bark as a Boiler Fuel, D. M. MYERS.....October 1909  
 Addition.....181  
 Discussion  
 A. A. CARY, 186; WM. KENT, 191; F. R. HUTTON, 192; Closure, 195.  
 Testing of Water Wheels after Installation, The, C. M. ALLEN.....481  
 Testing Suction Gas Producers, C. M. GARLAND and A. P. KRATZ.. December 1909  
 Discussion  
 R. H. FERNALD, 561, 566; G. M. S. TAIT, 565; H. H. SUPLEE, 565;  
 L. B. LENT, 565; H. F. SMITH, 566; W. B. CHAPMAN, 566;  
 E. N. TRUMP, 567; Closure, 567.  
 Textile Industry, The Mechanical Engineer and the, H. L. GANTT.....765  
 THOMAS, C. C. *An Electric Gas Meter*.....27, 521  
 Thurston, Robert Henry, Dedication of Memorial Tablet to.....295  
 Topical Discussion on Recent Developments in Wheel Testing  
 C. H. BENJAMIN, 1099; G. M. PEEK, 1104; J. D. MCPHERSON, 1104;  
 H. A. FERGUSON, 1105; E. D. MEIER, 1106; H. W. HIBBARD, 1106.  
 Training of Men a Necessary Part of a Modern Factory System, The, MAGNUS W. ALEXANDER.....33  
 Discussion  
 I. N. HOLLIS, 1085; H. S. KNOWLTON, 1086; H. E. RHODES, 1087;  
 C. F. PARK, 1088; G. C. EWING, 1089; E. F. MILLER, 1089; R. H. SMITH, 1089; D. G. BAKER, 1092; G. C. ANTHONY, 1094; PETER SCHWAMB, 1095; L. D. BURLINGAME, 1095; Closure, 1097.  
 Transactions, Corrections in.....June, 10  
 Trunk Lines, The Electrification of, L. R. POMEROY.....145  
 Two Proposed Units of Power, W. T. MAGRUDER.....1047  
 UNITED ENGINEERING SOCIETY  
 Report of Treasurer.....Mar., 15  
 Valves and Valve Areas, Pump, A. F. NAGLE.....253  
 Venturi Tests for Boiler Feed, C. M. ALLEN.....Mid-October 1909  
 Discussion  
 F. M. CONNET, 221, 224; CLEMENS HERSCHEL, 223; S. A. MOSS, 224;  
 G. A. ORROK, 225; Closure, 225.

## VICE-PRESIDENTS, HONORARY

Funeral of Horace See .....	Jan., 37
Funeral of Stephen W. Baldwin .....	Feb., 20
Water Wheels after Installation, The Testing of, C. M. ALLEN .....	481
WEAVER, S. H. <i>Critical Speed Calculation</i> .....	1059
Wheel Testing, Recent Developments in, Topical Discussion .....	1099
<i>Work and Possibilities of the Gas Power Section, The</i> , F. R. Low .....	549
Year Book .....	Mar. 4, May, 12

